

# DIY

*Worthwhile projects you can build on your own*



## Pool noodle pass-through

When it comes time to install an outdoor or rooftop antenna, often one of the most difficult and time-consuming tasks is to route the coax (coaxial cable) into the shack. There are several standard ways of achieving this, most of which involve drilling holes in the house. For many hams, that's not a problem, but for those living in an apartment, or with a family member who objects to violating the castle, options can be limited.



One easy method that many find agreeable is called a *pass-through* device, of which there are two popular types on the market. One is a [metal panel](#), around which the shack or other window can be mostly closed, and contains coax, ground, and other convenient station connections. The other is a [flat-ribbon pass-through](#). But after being sticker-shocked, many ask, *Couldn't I just make one?* And the answer is Yes.

The *pool noodle pass-through* is one you can easily make, but it won't have the rugged construction of the commercially available devices. Then again, the pool noodle has several advantages, such as simple construction, quick installation / removal, light weight, and of course low cost. Another advantage is the ability to move your coax through the window a few inches here or there at will when needed, to take up slack. Plus, if the noodle ever needs another connector hole, it's almost trivial to add one. And unlike for conventional pass-throughs, you don't need to cut (and then re-install connectors for) any cables to use the pool noodle; you can use your existing cable as-is, if it's long enough. Still, there are things to watch out for when using a pool noodle pass-through, and we'll address those concerns. But first, let's see what it takes to make one.

### Parts (and tools) list

One 2½" hollow (¾" hole) pool noodle

One length of [weatherstripping](#)

Tools: [utility knife](#)

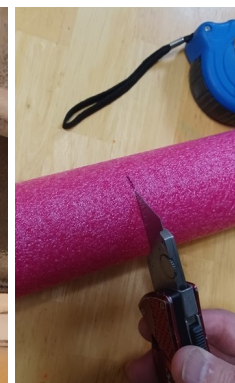
[tape measure](#)

[metal drill bits](#)

[zip ties](#)

### Construction

First, cut the noodle to length by measuring the sliding pane height from the highest track side of the bottom track to the lowest track side of the top track. Next, cut a straight slit along the entire length on one side of the noodle. Slip the slit of the noodle around the sliding pane to measure. If the noodle causes the screen to bulge much, you might need to cut another, parallel slit about ¼" to ½" away from the first. You don't want to cut out more than ½", or the noodle will fit too loosely around the sliding pane. (I didn't need to cut out any of it; I just used the original lengthwise slit.)



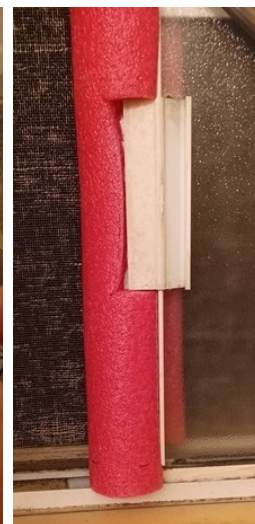


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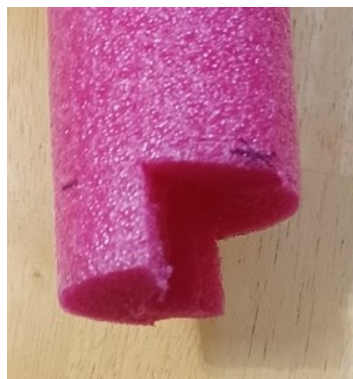
## *Pool noodle pass-through*



Cut around the pane handle to allow you convenient access to the handle.

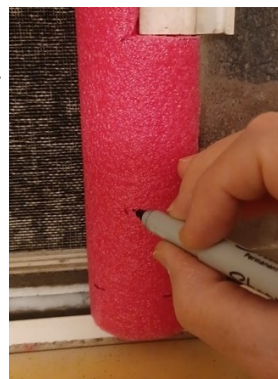


Cut  $\frac{3}{4}$ " off both ends of the noodle, but only on the screen (outdoor) half of the noodle, to allow room for the sliding pane tracks.



Mark a spot on the noodle about 3" above the bottom of the noodle and halfway between the outer edge and the inner hole, while looking directly at the noodle-pane joint.

Drill a  $\frac{1}{4}$ " hole at the spot, twisting the bit by hand, perpendicular to plane of the window. You need to use a metal or other smooth bit, because a wood bit will shred the noodle material. If you plan to use



LMR-400 or RG-213 or RG-8/U with the noodle, re-drill the hole with a  $\frac{1}{2}$ " bit. (Drilling twice reduces the shredding.) Cut a horizontal slit on the outside of the noodle parallel with the drilled hole.







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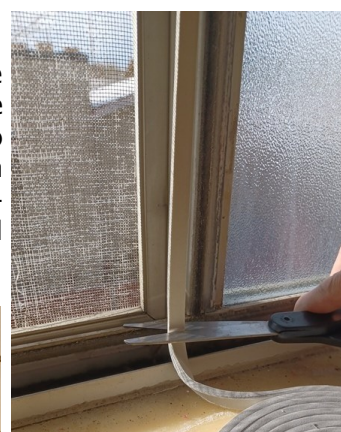
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Remove the sliding pane by lifting it off its tracks and pulling the bottom out (your own window might be a little different.) Apply a piece of weatherstripping the same length as the noodle, onto the indoor edge of the non-sliding pane, so that the sliding pane slides over it when you open and close the sliding pane. You might need to apply a thicker or thinner piece of weatherstripping, depending on your particular window needs. The object is to seal out not only the weather, but insects and blowing dust, while your window remains partially open.

### Putting it to work

Cut a horizontal 1¼" slit in your screen near the bottom edge (recommended), to prevent the weight of the coax from tearing the screen further. If you'd like, plug the screen slit around the coax to keep out insects. You can alternatively drill through the screen frame, but that'll require a ¾" hole, large enough for the coax connector to fit through. Keep in mind that a portion of the frame will sit in the track, leaving you little room to work.



Create a *drip loop* in your coax by coiling it in one or two loops, zip-tying the loop in shape, and allowing the coil to hang outside your screen.

Test the pool noodle pass-through by slipping your coax through the screen, then slipping the coax sideways into the horizontal slit, allowing the coax connector to dangle. Slip the entire noodle assembly completely onto your sliding pane, connect your coax to your rig, and you're ready to radio.

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